WHAT IS CLAIMED IS:

1. A method comprising the steps of:

generating WDM signal light by wavelength division multiplexing a plurality of optical signals having different wavelengths;

transmitting said WDM signal light by an optical fiber transmission line; and

receiving said WDM signal light transmitted by said optical fiber transmission line;

said receiving step comprising the steps of:

detecting chromatic dispersion related to at least one of said plurality of optical signals; and

providing a variable dispersion compensator whose chromatic dispersion and dispersion slope are controlled so that said detected chromatic dispersion is reduced.

2. A method according to claim 1, wherein said detecting step comprises the steps of:

converting at least one of said plurality of optical signals into an electrical signal; and

detecting the power of a frequency component in said electrical signal corresponding to the bit rate of said at least one optical signal.

3. A method according to claim 1, wherein said transmitting step comprises the step of providing a

linear repeating unit.

4. A method according to claim 3, wherein said transmitting step further comprises the steps of:

detecting chromatic dispersion related to at least one of said plurality of optical signals in said linear repeating unit; and

providing a variable dispersion compensator whose chromatic dispersion and dispersion slope are controlled so that said detected chromatic dispersion in said linear repeating unit is reduced.

5. A method according to claim 3, wherein said transmitting step further comprises the steps of:

detecting chromatic dispersion related to at least one of said plurality of optical signals in said linear repeating unit;

providing a variable dispersion compensator whose chromatic dispersion is controlled so that said detected chromatic dispersion in said linear repeating unit is reduced; and

providing a dispersion slope compensator for compensating dispersion slope in said linear repeating unit.

6. A method according to claim 1, wherein said generating step comprises the steps of:

detecting chromatic dispersion related to at least one of said plurality of optical signals;

providing a variable dispersion compensator whose chromatic dispersion is controlled so that said detected chromatic dispersion is reduced; and

providing a dispersion slope compensator for compensating dispersion slope.

7. A method comprising the steps of:

generating WDM signal light by wavelength division multiplexing a plurality of optical signals having different wavelengths;

transmitting said WDM signal light by an optical fiber transmission line; and

receiving said WDM signal light transmitted by said optical fiber transmission line;

said receiving step comprising the steps of detecting chromatic dispersion related to at least one of said plurality of optical signals;

providing a variable dispersion compensator whose chromatic dispersion is controlled so that said detected chromatic dispersion is reduced; and

providing a dispersion slope compensator for compensating dispersion slope.

8. A method according to claim 7, wherein said

detecting step comprises the steps of:

converting at least one of said plurality of optical signals into an electrical signal; and

detecting the power of a frequency component in said electrical signal corresponding to the bit rate of said at least one optical signal.

9. A method according to claim 7, wherein said transmitting step comprises the step of providing a linear repeating unit.

10. A method according to claim 9, wherein said transmitting step further comprises the steps of:

detecting chromatic dispersion related to at least one of said plurality of optical signals in said linear repeating unit; and

providing a variable dispersion compensator whose chromatic dispersion and dispersion slope are controlled so that said detected chromatic dispersion in said linear repeating unit is reduced.

11. A method according to claim 9, wherein said transmitting step further comprises the steps of:

detecting chromatic dispersion related to at least one of said plurality of optical signals in said linear repeating unit;

providing a variable dispersion compensator whose

chromatic dispersion is controlled so that said detected chromatic dispersion in said linear repeating unit is reduced; and

providing a dispersion slope compensator for compensating dispersion slope in said linear repeating unit.

12. A method according to claim 7, wherein said generating step comprises the steps of:

detecting chromatic dispersion related to at least one of said plurality of optical signals;

providing a variable dispersion compensator whose chromatic dispersion is controlled so that said detected chromatic dispersion is reduced; and

providing a dispersion slope compensator for compensating dispersion slope.

13. A system comprising:

a transmitting terminal unit for generating WDM signal light by wavelength division multiplexing a plurality of optical signals having different wavelengths;

an optical fiber transmission line for transmitting said WDM signal light; and

a receiving terminal unit for receiving said WDM signal light transmitted by said optical fiber

transmission line;

said receiving terminal unit comprising:

a dispersion monitor for detecting chromatic dispersion related to at least one of said plurality of optical signals; a variable dispersion compensator; and

a circuit for controlling the chromatic dispersion and dispersion slope in said variable dispersion compensator so that said detected chromatic dispersion is reduced.

14. A system according to claim 13, wherein said dispersion monitor comprises a converter for converting at least one of said plurality of optical signals into an electrical signal, a bandpass filter for extracting a frequency component in said electrical signal corresponding to the bit rate of said at least one optical signal, and a power sensor for detecting the power of said frequency component.

15. A system comprising:

a transmitting terminal unit for generating WDM signal light by wavelength division multiplexing a plurality of optical signals having different wavelengths;

an optical fiber transmission line for transmitting said WDM signal light; and

a receiving terminal unit for receiving said WDM signal light transmitted by said optical fiber transmission line;

said receiving terminal unit comprising:

a dispersion monitor for detecting chromatic dispersion related to at least one of said plurality of optical signals; a variable dispersion compensator;

a circuit for controlling the chromatic dispersion in said variable dispersion compensator so that said detected chromatic dispersion is reduced; and

a dispersion slope compensator for compensating dispersion slope.

16. A system according to claim 15, wherein said dispersion monitor comprises a converter for converting at least one of said plurality of optical signals into an electrical signal, a bandpass filter for extracting a frequency component in said electrical signal corresponding to the bit rate of said at least one optical signal, and a power sensor for detecting the power of said frequency component.

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